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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/997,541      | 11/29/2001  | Derek Forbes         | ACO6194US           | 7266             |

7590 12/23/2003  
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|-------------|
| EXAMINER    |
| TSOY, ELENA |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1762     |              |

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/997,541             | FORBES ET AL.       |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Elena Tsoy             | 1762                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                              | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>102003</u> . | 6) <input type="checkbox"/> Other:  |

***Response to Amendment***

1. Amendment filed on September 11, 2003 has been entered. Claim 1 has been cancelled. New claims 9, 10 have been added. Claims 2-10 are pending in the application.

***Specification***

2. Objection to the disclosure has been withdrawn.

***Claim Objections***

3. Objection to claim 8 because of the informalities has been withdrawn.
4. Claim 7 is objected to because of the following informalities: phrase "w t-in-wet" seems to be incorrect. For examining purposes the phrase was interpreted as "wet-in-wet".
5. Claim 9 is objected to because of the following informalities: phrase "this permitting" in line 14 seems to be incorrect. For examining purposes the phrase was interpreted as "thus permitting".

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, line 1, a phrase "The process of claim 1" renders the claim indefinite because claim 1 is a canceled claim. It is not clear which process is further limited by claim 7. For examining purposes claim 7 was examined as depending on claim 9.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 9, 2, 3, 10** are rejected under 35 U.S.C. 102(b) as being anticipated by Larson et al (US 5,260,101).

As to claim 9, Larson et al disclose a process for making and applying a coating composition using a plural component apparatus (See column 1, lines 10-18) employing in some cases **more than two** packages or components (See column 1, lines 59-61; column 5, lines 40-48) such as a combination of functional groups: amine/isocyanate, hydroxy/isocyanate, **hydroxy/isocyanate/amine**, amine/epoxy, **amine/epoxy/isocyanate** (See column 9, lines 50-60) comprising selecting a mixing ratio for the components (See column 4, lines 61-63), mixing the components of the coating composition and applying by spraying the coating composition (See column 1, lines 15-18; column 3, lines 1-2); whereby a plurality of coating compositions with varying properties can be made and applied to the substrates (See column 9, lines 31-35, 49-65). The method may be used to apply coating compositions such as primers, basecoats, topcoats, or

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clearcoats (See column 9, lines 3-5). The coating composition dries and cures at temperatures ranging from about ambient to 80 °C (68 °F-176 °F) (See column 2, lines 63-64).

The Examiner Note: since isocyanate reacts with amine or alcohol, and epoxy reacts with amine, the combination **hydroxy/isocyanate/amine** is a combination of two different binders: a binder A (hydroxy) and a binder C (amine) and isocyanate hardener B; and the combination **amine/epoxy/isocyanate** is a combination of a binder A (amine) and two different hardeners: a hardener B (isocyanate) and a hardener C (epoxy).

As to claim 3, since isocyanate and epoxy hardeners have different reactivity, one of them is faster than other toward a selected binder.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 3-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson et al (US 5,260,101) in view of Vu (US 4,710,560).

Larson et al, as applied above, further teach that both aromatic and aliphatic diisocyanates may be used as hardeners (See column 10, lines 11-19). However, Larson et al fail to teach that the coating composition comprises a combination of aromatic and aliphatic

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diisocyanates, hardeners having different reactivity (the aromatic diisocyanates being faster than aliphatic ones), i.e., a combination **hydroxy/isocyanate** is a combination of hydroxy binder A/aromatic isocyanate B (hardener with fast reactivity (sanding hardener))/aliphatic isocyanate C (a hardener with slow reactivity (wet-in-wet hardener)) (Claims 3, 4, 7) with volume percentage of binder A being between 5 % and 95% (Claim 5) or between 10 % and 90 % (Claim 6), the volumetric ratio of A to B+C ranging from 100:80 to 100:60 (Claim 7); and a combination **amine/epoxy/isocyanate** is a combination of amine binder A/aromatic isocyanate B (a hardener with fast reactivity)/aliphatic isocyanate C (a hardener with slow reactivity) and a epoxy hardener D (Claim 8).

Vu teaches that if a mixture of an aliphatic and an aromatic isocyanate is used, due to the difference in reactivity ratios of these reactants, the aliphatic moieties will predominate at the terminus locations since they react more slowly than aromatic isocyanates with --OH groups. Thus, using aromatic and aliphatic diisocyanates having different reactivity toward OH-groups a polymer with predetermined structure and properties can be achieved. See column 4, lines 55-60.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used both aromatic and aliphatic diisocyanates having different reactivity toward OH-groups as isocyanate hardener in coating compositions of Larson et al with the expectation of providing the resulting polymer with desired structure and properties, as taught by Vu.

It is held that concentration limitations are obvious absent a showing of criticality. *Akzo v. E.I. du Pont de Nemours* 1 USPQ 2d 1704 (Fed. Cir. 1987).

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant concentration parameters (including those of claims 5-7) in a process of Larson et al through routine experimentation in the absence of a showing of criticality.

#### *Response to Arguments*

12. Applicant's arguments with respect to claims 2-10 have been considered but are moot in view of the new ground(s) of rejection.

#### *Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30, Mo-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for all communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in cursive script, appearing to read 'ETsoy', is positioned above the typed name of the examiner.

Elena Tsoy  
Examiner  
Art Unit 1762

December 17, 2003